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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,692	11/29/2001	Mikhail Boroditsky	003493.00347	4952
26652	7590	08/10/2005	EXAMINER	
AT&T CORP. P.O. BOX 4110 MIDDLETOWN, NJ 07748			PAYNE, DAVID C	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/995,692

Applicant(s)

BORODITSKY ET AL.

Examiner

David C. Payne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 38-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 48-50 is/are allowed.
- 6) ☒ Claim(s) 38-47, 51 and 54-72 is/are rejected.
- 7) ☐ Claim(s) 52 ad 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

1. Regarding the applicant's comments regarding the Examiner's understanding of a composite packet:  
In clarification, What the applicant has termed a 'composite packet' based on the Examiner's reading of the specification and drawings is the multiplexing of a plurality of packets (each on a separate wavelength) which are aligned in time (a at predefined time-slot). The Examiner takes issue with the term 'composite packet' because it would imply to one of ordinary skill in the art that the information contained in each individual packet on each separate wavelength is somehow a sub information field of a larger superstructure packet constructed of all packets at the same time-slot in every wavelength, which is not necessarily so. Nevertheless, since the applicant is granted the liberty to define his or her own terminology, the Examiner will not belabor the point.
2. Regarding applicant's indication that Tsushima does not disclose generating a set of serial packets by a tunable laser. The Examiner agrees with the applicant since Tsushima disclosed a plurality of lasers generating a plurality of continuous wave lights at the Head station which are then modulated with information at the terminal stations for distribution around the ring. However, as discussed below, while using separate lasers at the head station for the advantages as discussed, Tsushima was aware and discussed tunable lasers as an alternative, see cols./line(s): 1/60-67.
3. Regarding applicant's indication that Tsushima does not disclose stacking said set of serial packets to form a first composite packet by the stacker. The Examiner disagrees. Tsushima, embodiment of Figure 7, discussed at see cols./line(s): 11/47-67, 12/1-46, disclosed where serial packets (which illustrated in Figures 4a – 4f) are aligned at specific time slots (0, T, 2T, ...) at a plurality of wavelengths. Furthermore, Tsushima teaches that multiple packets can be added or dropped from this WDM light by couplers 20a and 20b of Figure 7.

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4. Regarding applicant's indication that Tsushima does not disclose employing an optical crossbar switch of a first node of a core ring of said ring network to add said first composite packet into an empty time slot of a core ring of said network. The Examiner disagrees. Figure 7 (element 15) and alternative embodiment Figure 8 (elements 33 and 34) each illustrate optical crossbar switches used to add packets into empty time slots.
5. Regarding applicant's indication that Tsushima does not disclose dropping said first composite packet as a unit in a second node of said core ring. The Examiner disagrees. Figure 7 illustrates dropping/adding two wavelengths (and associated serial packets) from the WDM signal. Figure 8 illustrates selectively dropping/adding any of the four wavelengths from the WDM signal. It would have been obvious to one of ordinary skill in the art at the time of invention that one could combine the teachings of these two embodiments to simultaneously drop packets from all the wavelengths as a unit.
6. Regarding applicant's indication that Tsushima does not disclose serializing the composite packet. The Examiner disagrees. In concert with the previous discussion from point 5, each of the packets are serial in nature in both transmission and reception.
7. Regarding applicant's indication that Tsushima does not disclose distributing at least one packet of said serial stream of packets. The Examiner disagrees. The packets received at a terminal station can be recombined and transmitted (distributed) to other nodes on the ring, as disclosed in Tsushima, see cols./line(s): 9/10 -15.

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***Claim Objections***

8. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). **There are two claims numbered 41.**

Misnumbered claim 41 has been renumbered 72.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 38-47, 51, and 54-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsushima et al. US 5,600,466 (Tsushima).

Re claim 38, 45, 46, 51, 54, 55, 56, and 66-70 Tsushima disclosed

A method of providing high connectivity communications over an optical ring network operating in photonic time slots, comprising the steps of:

generating a set of serial packets (*Figures 4a – 4f*), where each packet in said set is at a different wavelength and occupies a time slot of said time slots (which illustrated in *Figures 4a – 4f*) are aligned at specific time slots (0, T, 2T, ...);

stacking said set of serial packets to form a first composite packet to superimpose said packets within a time slot of said time slot to form a first composite packet (*Figures 4a – 4f*);

employing an optical crossbar switch [*Figure 7 (element 15) and alternative embodiment Figure 8*]

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(elements 33 and 34)] of a first node of a core ring (103 of Figure 16) of said ring network to add said first composite packet into an empty time slot of a core ring of said network dropping said first composite packet (21 of Figure 7 or 8) as in a second node of said core ring of said ring network with second node is a destination node of said first composite packet, serializing said first composite packet at said second node into a received serial stream of packets; and distributing at least one packet of said received serial stream of packets.

Tsushima disclosed the dropping of a plurality of wavelength packets in Figure 7 or selectively from any of the set of wavelengths in Figure 8, but not dropping the packets at a particular time slot across all the wavelengths. It would have been obvious to one of ordinary skill in the art at the time of invention that one could combine the teachings of these two embodiments to simultaneously drop packets from all the wavelengths as a unit by just replicating the receivers of Figure 7 across all wavelengths. One is motivated as such so as to simultaneously receive packets from all stations at once. (As regarding claims 38 and 56), Tsushima disclosed a plurality of lasers generating a plurality of continuous wave lights at the Head station which are then modulated with information at the terminal stations for distribution around the ring not a single tunable laser. However, using separate lasers at the head station for the advantages as discussed, Tsushima was aware and discussed tunable lasers as an alternative, see cols./line(s): 1/60-67. It would have been obvious to one of ordinary skill in the art at the time of invention to use a single tunable laser to reduce the number of components in the head station.

Re claims 39-41, 63, 64 Tsushima disclosed concurrently adding/dropping and distributing packets at terminal station (stacker) in Figure 7 in a single device.

Re claim 42 and 72, Tsushima disclosed using a crossbar switch, Figure 7 (element 15) and alternative embodiment Figure 8 (elements 33 and 34).

Re claim 43, 44, Tsushima disclosed using serializing time delays, 14 of Figure 7.

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Re claim 47, Tsushima disclosed a WDM demultiplexer, 13 of Figure 7.

Re claims 57 and 58 Tsushima further disclosed an out of band control channel in wavelength 0.

Re claims 59-60 Tsushima's invention as elements of both parallel and serial formation of composite packets.

Re claims 65 Tsushima further disclosed bypassing reception by a passthrough of wavelengths 1 and 2 in Figure 7.

***Allowable Subject Matter***

11. Claims 48-50 are allowed.
12. Claims 52 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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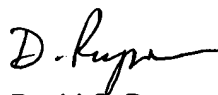
***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp



**David C. Payne**  
**Patent Examiner**  
**AU 2638**